The above amendments are intended to clarify that the invention is intended to relate to receivers which receive signals from a digital audio radio service (DARS) broadcast, which is known to contain auxiliary data in addition to audio information. The auxiliary data changes at the beginning of each broadcast segment, enabling the beginning of a broadcast segment to be identified without requiring the insertion of a *start time* into the signal, as is required in Stepp et al. The additional description of DARS service added to the specification is not new matter, as it is taken from U.S. Patent App. Serial No. 09/263,207 (Now U.S. Patent No. 6,493,546) which was incorporated into the application by reference in its entirety. The above amendments further clarify the present invention from Stepp by defining the auxiliary data as being embedded in the signal *prior to* the signal being received. This is in contrast to Stepp, which describes *inserting* start time data into the video signal at the receiver (Col. 5, Lines 13-15).

While the Applicants agree with the Examiner that MPEG compression algorithms are used to process both video and audio signals, they are not known to inherently contain auxiliary data about a particular live broadcast. Thus, systems such as the system described in Stepp are required to artificially insert start time data into the received signal. The method of Stepp would be particularly disadvantageous in an embodiment of the present invention which deducts monetary credit from a pre-paid music card in exchange for recording the broadcast segment to a permanent storage medium. If a user wanted to record a song, for instance, in exchange for a fee, they would expect the recorded broadcast segment to be accurate. The Stepp system disadvantageously would result in either the end of the previous broadcast segment or

the beginning of the next broadcast segment to be included in the recorded portion, or would have the beginning or end of the desired broadcast segment cut-off.

Claims 1 and 10 further distinguish Stepp and the other cited references by allowing the recorded encrypted signal to be deciphered and recorded only if enough monetary credits are present on the smart card. This is particularly important to ensure customer satisfaction with recordings paid for. As described above, in an device which deducts monetary value in exchange for the ability to record a signal in a non-encrypted manner, it is particularly important to go through the initial determination that the entire broadcast segment (e.g. a complete song) is available with the beginning and end accurately identified, as opposed to the inherently inaccurate approach of Stepp (inserting start time into a signal at the receiver).

Applicant's respectfully disagree with the Examiner's arguments with respect to a system in accordance with Stepp recording music videos. Rather, the music video scenario illustrates the advantages of the present invention. Because music videos occur at irregular intervals, it would not be possible for a system such as Stepp to accurately determine when one music video ends and another begins. This is because the video signal being received does not inherently include auxiliary data *prior to being received* which indicates the accurate beginning of a new broadcast segment. Stepp merely describes determining a start time and inserting that start time into the video signal. Stepp fails to describe a way to *accurately* determine the start time, and as a a result cannot accurately mark start times of received signals. The present invention overcomes this difficulty by receiving DARS signals which contain auxiliary data operable to identify the beginnings of broadcast segments. The auxiliary

data is advantageously embedded into the signal prior to the signal being received. Thus, the receiver need not be relied on to determine the start time.

The references cited by the Examiner teach away from the present invention. Stepp teaches inserting start time data into the signal *at the receiver,* which inherently teaches away from embedding auxiliary data into the signal prior to the signal being received. Iwamura teaches an accounting system for content providers who provide information to users *on request* (Col. 4, Lines 1-3). This teaches away from the present invention which is intended to allow a user to record contemporaneous broadcasts. Payton also teaches virtual on demand delivery of information. Park teaches the use of smart cards and decryption generally, but does not make up for the deficiencies of the other references. Namely, none of the references teach or suggest determining whether to record a buffered signal based on a start time embedded in the signal, prior to the signal being received, to allow contemporaneous recording of a broadcast segment, and deciphering of the encrypted content for recording onto a recording medium if the entire broadcast segment is available, and enough monetary credits are available on the smart card.

In order to establish an obviousness rejection under 35 U.S.C. §103, an Examiner must show that motivation existed to combine the references. MPEP §2143.01. One of ordinary skill in the art would not be motivated to combine Stepp, which deals with recording contemporaneous broadcast transmissions from a beginning even though the decision to record occurs *after* the transmission has begun, with Iwamura and Payton, which deal with on-demand delivery of information. On-demand systems inherently do not suffer from the problem of a user wanting to record a broadcast from the beginning even though it has already begun. On-demand

information is delivered at the time of the user's selection. Thus, it is highly unlikely that one of skill in the art, faced with the problem solved by the present invention, namely, enabling recording of a contemporaneous broadcast of digital music in exchange for monetary credit when the decision to record is made after the broadcast has begun, would look to references such as Payton and Iwamura, which deal with on-demand delivery, and combine them with Stepp and Park. However, as discussed above, even if one of skill in the art were motivated to combine these references, they would still not, taken together, teach all of the elements of the present claims. Therefore, the Examiner's rejection under 35 U.S.C. §103 should be withdrawn.

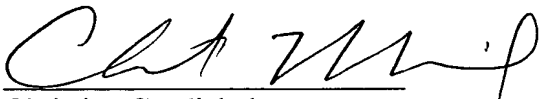
In view of the above amendments clarifying the claims as directed to digital audio radio service (DARS) signals which contain auxiliary data operable to identify a beginning of a broadcast segment (the auxiliary data being embedded prior to the signal being received), Applicants respectfully request that the Examiner's rejection be withdrawn and a notice of allowance granted.

The Declaration Under 37 C.F.R. §1.132 submitted herewith shows that it would not have been obvious to one of ordinary skill in the art to modify an ordinary television, radio or satellite signal to include auxiliary data operable to identify a beginning of a broadcast segment. It is the embedding of auxiliary data in the signal *prior to the signal being received* (i.e. by the content provider) which enables the inherently more accurate method of determining the beginning and end of a broadcast segment. As stated above, this feature is particularly important in a system intended to enable music to be deciphered and recorded in exchange for a fee.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

In view of the above, it is believed that the application is in condition for allowance and notice to this effect is respectfully requested. Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the telephone number indicated below.

Respectfully Submitted,



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Dated: April 15th, 2003

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION:

The paragraph beginning at line 21 of page 4 of the specification has been amended as follows:

--The receiver 12 is preferably as S-band receiver which receives digital audio radio service (DARS) broadcast signals from a satellite via an antenna 20. In addition to audio information, DARS signals contain additional information about the broadcast, including the satellite broadcast channel number, artist name, audio program title, and data channel information. The receiver 12 can also receive S-band signals from a terrestrial source when the satellite signals are not available. The receiver unit 12 comprises a radio frequency (RF) front-end receiver 18 for receiving, and demodulating the signals received via an S-band antenna 20 for output via the A/D and audio decoder system 16. It will be understood that the output of the front-end receiver 18 is a digital audio signal (which may or may not be encrypted) and that the A/D and audio decoder system 16 includes suitable digital-to-analog conversion circuitry for producing an analog audio output signal for output to speaker 17.--

IN THE CLAIMS:

Claims 1, 10 and 13 have been amended as follows:

1. (Fourth Amendment) An apparatus for recording and playing a digital signal, comprising:

a receiver for receiving an encrypted digital signal comprising a digital audio radio service broadcast segment comprising auxiliary data operable to identify a

beginning of said broadcast segment, said auxiliary data being embedded in said encrypted digital signal prior to said signal being received;

a buffer connected to said receiver for storing at least part of said digital signal as it is being received;

a recorder connected to said receiver for recording onto a first recording medium said encrypted digital signal in response to a user request if a beginning of said broadcast segment is in said buffer;

a player for playing said first recording medium and connected to a card reader; and

a card having a predetermined value for insertion into said card reader;

wherein when said card is inserted into said card reader, said card reader verifies that said predetermined value is at least a selected minimum value and authorizes said player to decipher said encrypted digital signal from said first recording medium and to record said deciphered signal onto one of said first recording medium and a second recording medium.

10. (Fourth Amendment) A method for recording and playing digital signals, comprising:

receiving an encrypted digital signal comprising a digital audio radio service broadcast segment comprising auxiliary data operable to identify a beginning of said broadcast segment, said auxiliary data being embedded in said encrypted digital signal prior to said signal being received;

storing said encrypted digital signal in a buffer as it is being received;

determining whether a beginning of said broadcast segment is in said buffer in response to a user request to record said encrypted digital signal;

recording said encrypted digital signal onto a first recording medium in a recorder and player device if said beginning of said broadcast segment is stored in said buffer;

inserting a card having at least a predetermined value into said recorder and player device;

determining that said predetermined value corresponds to at least a selected minimum value; and

deciphering said encrypted digital signal and recording said deciphered signal onto one of said first recording medium and a second recording medium if said card has said selected minimum value.

13. (Fourth Amendment) A method for recording and playing an encrypted digital audio broadcast signal, comprising:

receiving an encrypted digital audio radio service broadcast signal comprising a digital audio broadcast segment comprising auxiliary data operable to identify a beginning of said broadcast segment, said auxiliary data being embedded in said encrypted digital signal prior to said signal being received;

storing at least part of said encrypted digital audio broadcast signal in a buffer as it is being received;

electing to record said encrypted digital audio broadcast signal onto a first recording medium;

determining whether [a] said beginning of said broadcast segment is in said buffer; and

recording said encrypted digital audio broadcast signal onto said first recording medium if said beginning of said broadcast segment is stored in said buffer.